

DECLARATION OF F. BRUCE BROWN

I, F. BRUCE BROWN, declare and state as follows:

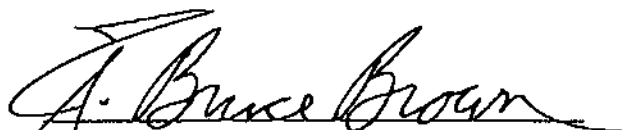
1. I am a consultant in the field of agricultural economics with 30 years experience in economic, financial, social and land aspects of natural resource development projects. A current curriculum vitae detailing my qualifications and experience is attached to this declaration.

2. I have been retained by the Metropolitan Water District of Southern California (Metropolitan) to assist it in evaluating the amount of Colorado River water needed to satisfy reasonable and beneficial uses within the Imperial Irrigation District (IID).

3. My opinions, findings and conclusions concerning this matter are discussed in detail in the attached May 27, 2003 memorandum to Principal Engineer Kirk Dimmitt, Subject: On-Farm Water Conservation Opportunities, which I prepared jointly with Mr. Harold Payne.

4. As to me, the opinions, findings and conclusions detailed in the attached memorandum are based upon my own personal and professional knowledge of and expertise in the matters that are addressed and, if called as a witness, I could and would testify competently thereto.

I declare that the foregoing is true and correct and that this declaration was executed in Mesa, Arizona on May 27, 2003.



F. BRUCE BROWN

Consultant to Metropolitan in the field of
agricultural economics

F. BRUCE BROWN
EcoPlan Associates, Inc.

EDUCATION

Utah State University, M.S. Agricultural Economics, 1974
Utah State University, B.S. Economics, 1973
Language Fluency: Spanish

EXPERIENCE

Mr. Brown is a resource economist with 29 years of professional experience. He specializes in the economic, financial, social and land components of natural resource development projects. His specific areas of expertise include the analysis of economic and financial influences and effects; environmental assessments and impact statements; and the identification and evaluation of beneficial and adverse impacts to population, employment, fiscal budgeting, and local and regional economies.

Mr. Brown conducts single and multiple-purpose water resource project investigations (irrigation, power, flood control, recreation, municipal and industrial water), identifies potential uses, and analyzes beneficiary payment capacity, cost allocations and project repayment schedules. He has worked on projects throughout the western U.S. and in over 25 foreign countries where he assisted government agencies and international lending institutions. Mr. Brown has provided expert witness testimony in a court of law.

EMPLOYMENT HISTORY

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|----------------|--|
| 1991 - Present | Principal, EcoPlan Associates, Inc. |
| 1985 - 1991 | Principal, Great Western Research, Inc. |
| 1977 - 1985 | Senior Economist, Harza Engineering Company |
| 1974 - 1977 | Regional Economist, U.S. Bureau of Reclamation |

Mr. Brown has served as Project Manager or Principal Investigator on the following selected projects:

Programmatic Environmental Impact Statement. Served as project manager in the preparation of Programmatic Environmental Impact Statement for complex agricultural project involving approximately 150,000 acres. Gila River Indian Community.

Environmental Assessment. Served as project manager for the preparation of four Environmental Assessments to develop irrigated agriculture on the Gila River Indian Reservation. These EAs were tiered from a Programmatic Environmental Impact Statement.

Environmental Impact Statement. Participated as member of technical team responsible for writing the EIS document. Provided expertise in the social and economic areas impacted from improvements to Saddle Road, Hawaii. Federal Highways Administration.

Environmental Assessment. Conducted analyses and drafted the environmental document for widening and other improvements to Old Linden Road, Show Low, Arizona. Arizona Department of Transportation.

Environmental Assessment. Conducted analyses and drafted the environmental document for installation of a rest area (Mazatal Rest Area) at the intersection of SR 87 and SR 188. Arizona Department of Transportation.

Environmental Assessment. Analyzed socioeconomic impacts for the environmental assessment of FH-12 from SR87 to Young, Arizona. Federal Highways Administration.

Environmental Assessment. Prepared socioeconomic and land use analyses for the widening of Baseline Road between Mesa Drive and Country Club Drive, Mesa, Arizona.

Socioeconomic/Demographic Impacts. Conducted an analysis of socioeconomic and demographic impacts resulting from Summersville Power Modification Project, West Virginia. U.S. Army Corps of Engineers.

Rural Development. Managed feasibility analysis of an integrated rural development project in Bolivia which incorporated the physical, social, economic, financial and institutional components of resettlement. Inter-American Development Bank.

Land/Water Impact Study. Prepared detailed analysis of land and water use on adjacent lands (mostly in Mexico) to Organ Pipe Cactus National Monument in southern Arizona. U.S. Park Service, Organ Pipe National Monument, Arizona.

Water Leasing. Developed technical background analyses, surveys, farm models, socioeconomic impacts, and assisted in administering/monitoring water leasing program on Colorado River. Metropolitan Water District, California.

Flood Control Study. Provided analyses of potential flood damages, power revenue impacts and justification to inundate or construct protective works for 75,000 acres located in the reservoir area to World Bank. Yacyreta Hydropower Project, Parana River, Paraguay/Argentina.

Economic Analysis of Irrigation Methods. Analyzed economic feasibility for farmers to adopt different recommended irrigation technologies that meet water conservation goals of the Second Management Plan. Developed computer model. Roosevelt Water Conservation District, Arizona.

Beneficial/Adverse Impacts of Salt Cedar. Analysis of the beneficial and adverse impacts of salt cedar throughout western U.S. including preparation of the economic, environmental and social accounts. U.S. Bureau of Reclamation, Yuma Projects Office.

Groundwater Monitoring. Organized database for monitoring 250 irrigation wells in the Sonoyta Valley (Mexico) and developed model to estimate pumped volumes based on energy use. U.S. Park Service, Organ Pipe National Monument, Arizona.

Economic Impacts of Water Transfers. Conducted study of the economic impacts of water transfers from rural to urban users for selected areas within Arizona. Arizona Department of Water Resources.

Water Transportation Master Plan. Conducted economic and financial analyses of competing alternatives, utilizing computer modeling, to structure a 30-year master plan for cargo transportation in the Orinoco-Apure river basins, Venezuela. Inter-American Development Bank.

Computerized Irrigation Scheduling. Conducted an economic analysis of potential energy and water savings from computerized irrigation scheduling of agricultural crops in California. U.S. Department of Energy.

Reservoir Clearing Analysis. Conducted economic analyses of clearing operations for reservoir area of proposed dam and alternatives for utilization of wood resources lost to inundation. Government of Tanzania and Norwegian Development Fund.

Water Conservation. Conducted in-depth economic studies (computer modeling) of different irrigation technologies that could be used by farmers to meet conservation goals of the Second Groundwater Management Plan, Arizona. Agri-Business Council of Arizona.

Flood Control Master Plan. Conducted economic feasibility study of a proposed master plan for flood control in the Sula Valley, Honduras. Inter-American Development Bank.

Irrigation Project Feasibility. Completed reconnaissance-level study of economic and financial feasibility of small irrigation project in Syria involving sprinkler systems on up to 6,000 acres. George A. Rolfes Company, Nebraska.

Irrigation Project Programming. Conducted reconnaissance-level economic analyses of 23 small irrigation projects in Haiti to establish feasibility and priorities for implementation. U.S. Agency for International Development.

Energy Generation and Transmission. Completed an economic analysis of mine-mouth generation versus transporting Western coal resources to generation facilities in Mid-west. U.S. Department of Energy.

Flood Control and Irrigation Project. Conducted a feasibility- level analysis of flood control and irrigation benefits related to the construction El Cajon Dam in Honduras. Government of Honduras.

Colorado River Salinity Impacts. Conducted an economic analysis of impacts to agriculture, municipalities and industry from increasing salinity levels in the Colorado River. U.S. Bureau of Reclamation.

Computerized Irrigation Scheduling. Completed 3-year study and economic evaluation of USBR computerized irrigation management program in the 17 Western states. U.S. Bureau of Reclamation.

National Agricultural Planning Model. Developed linear programming model of the national agricultural sector as a planning tool for Bolivian Ministry of Agriculture. U.S. Agency for International Development.

Land Tenure Analysis. Conducted economic evaluation of land tenure and resettlement alternatives for lands owned by the Government of El Salvador. U.S. Agency for International Development.

Economic Analysis of Critical Habitat. Provided review and comments of economic analysis of the designation of critical habitat for four Colorado River fishes prepared by the U.S. Fish and Wildlife Service. Colorado River Commission of Nevada, Colorado River Energy Distributors Association and Arizona Power Authority.

Agricultural Crop Planning. Developed detailed crop budgets, conducted financial analyses, selected suitable crops, and developed implementation plan for 1,500 acres of new irrigated lands on the Fort McDowell Indian Reservation. Fort McDowell Indian Tribe.

Institutional Assessment. Applied a matrix analysis to evaluate institutions involved in development activities for the Chaco Region of Bolivia to identify overlapping functions and functions not currently addressed. Inter-American Development Bank.

Rural Road Project. Led pre-appraisal and appraisal missions, and prepared loan documents for rural feeder road project in El Salvador. Inter-American Development Bank.

Fishery Management Plan. Developed a fishery management plan for Lake Mead National Recreation Area and Lake Mohave. U.S. Park Service, Boulder City, Nevada.

Agricultural Sector Analysis. Supervised international team of experts that conducted an analysis of the agricultural sector in the economy of Guatemala analyzing baseline conditions, identifying needs, conceptualizing projects and programming priority areas for implementation during next 10-year period. U.S. Agency for International Development, Guatemala Office.

Agricultural Power Rates. Conducted survey of power rates for agricultural water users in western U.S. and developed pumping cost model for each utility surveyed. Salt River Project, Arizona

Erosion Control. Developed erosion control plan for two subwatersheds in Organ Pipe Cactus National Monument. U.S. Park Service, Organ Pipe National Monument, Arizona.

Irrigation Project Analysis. Prepared all technical data and analyses for the economic and financial chapters of Schuk Toak Small Loan Application (Arizona) to USBR. Tohono O'odham Indian Nation.

Agricultural Revenue Analysis. Prepared agricultural crop revenue verification analysis included in the Official Statement of an irrigation district which issued General Obligation Unlimited Tax Bonds. Squire, Sanders & Dempsey Law Firm, Arizona.

Agricultural Land Leasing. Completed analyses of farm payment capacity and costs of agricultural water used in lease negotiations of farmland. City of Mesa, Arizona.

Irrigation Project Feasibility. Conducted economic analyses of the irrigation land classification for the San Xavier District based on farm level payment capacity. Also performed marginal benefit/cost analyses to determine optimum project size. Tohono O'odham Indian Nation, Arizona

Homeowner Credit Reviews. Conducted annual interviews with mortgage holders and completed report packages for Interest Credit Renewal Program. Farmers Home Administration, Maricopa County, Arizona

Annual Farm Plans. Developed annual farm management plans for over 15 irrigated areas in New Mexico and Arizona, modeling logistics of equipment by type. The Navajo Nation, Arizona.

Groundwater Irrigation Project. Conducted economic and financial analyses for groundwater irrigation projects in the Baluchistan Province of Pakistan. Asian Development Bank.

Erosion Control and Watershed Management. Developed socioeconomic and economic evaluation procedures for a watershed management manual to be used nationwide. Government of Venezuela.

Multiple Purpose Water Resource Project. Performed economic feasibility study of dam construction for Nam Mun (Thailand) multiple use water resource project including flood control, domestic water supply, irrigation, fisheries and resettlement. World Bank.

Irrigation Project Feasibility. Conducted an economic evaluation of the on-going Kaiseba Irrigation Project (Iraq) and structured a program for future operations. Food and Agriculture Organization of the United Nations.

Irrigation Project Analysis. Conducted a feasibility-level economic and financial analysis of Black Bush Irrigation Project, Guyana. World Bank.

Balance of Payments Study. Analyzed the impacts that implementation of the Jordan Valley Irrigation Project would have on the national balance of payments for the Kingdom of Jordan. World Bank.

Irrigation Project Analysis. Conducted a feasibility-level economic and financial analysis of the Quimistan Valley Irrigation Project, Honduras. Inter-American Development Bank

Irrigation Project Analysis. Analyzed the socioeconomic and agricultural economic feasibility of the bi-national Puyango-Tumbes Irrigation and Power Project, Ecuador and Peru. Inter-American Development Bank.

Irrigation Project Rehabilitation. Conducted economic and financial analyses of the rehabilitation potential for selected irrigation projects in Sri Lanka. U.S. Agency for International Development.

Irrigation Project Analysis. Prepared a small loan application, including economic and financial analyses, for Bureau of Reclamation funding of rehabilitation activities for the San Carlos Irrigation and Drainage District, Arizona.

Glen Canyon Environmental Impact Statement. Provided review and comments of economic analyses of power, recreation and non-use impacts in the draft and final EIS documents for changing operations at Glen Canyon Dam. Colorado River Energy Distributors Association.

Habitat Conservation Planning. Participated in formulation of Habitat Conservation Plan for the lower Colorado River and assisted with analyses of funding during both the development and implementation phases.

Irrigation Project Analysis. Conducted economic and financial analyses of supplying Central Arizona Project water to the McMullen Valley. City of Phoenix, Arizona.

Agricultural Land Values. Performed economic studies in advising owner of private farm during sales negotiations.

Expert Witness. Conducted economic and statistical analyses for group of agricultural plaintiffs involved in litigation related to cotton ginning. Provided depositions and expert testimony in court.

Bureau of Reclamation, Engineering and Research Center -reviewed water resource development studies to evaluate conformity of cost allocations, benefits, costs, project layout, and recommended project plan. This involved projects located throughout the 17 western states. Planned and executed economic research. Conducted field data collection and applied statistical

and econometric tools to studies and projects. Conceptualized and developed linear programming models for agricultural areas in Lower Colorado River Basin. Co-authored publication outlining methodology for quantifying the changing salinity levels in the Colorado River on agricultural, municipal and industrial users resulting from existing and future USBR projects.